AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A navigation operation system performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data;

a head for reading and writing information from and into the storage device;

a providing device for providing a position to which the head is made to retract from a portion on the storage device; and

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time,

wherein the defragmenting processing device continuously arranges specific data in the vicinity of the retracted position when the defragmenting processing is performed.

2. (original): The navigation system according to claim 1, wherein the defragmenting processing device continuously arranges a plurality of data fragments being arranged in a divided form and belonging to the same file.

3. (original): The navigation system according to claim 1, wherein the storage device is a hard disk mounted in a hard disk apparatus.

Claim 4 (canceled).

5. (previously presented): The navigation system according to claim 1, further comprising an operation device with which executing the defragmenting processing in the storage device is able to be ordered, wherein the defragmenting processing device performs the defragmenting processing in response to the instruction of execution from the operation device.

6. (original): The navigation system according to claim 1, wherein the defragmenting processing device interrupts the defragmenting processing if a given condition is fulfilled during executing the defragmenting processing.

7. (original): The navigation system according to claim 6, wherein the defragmenting processing device preserves defragmenting progress data indicative of a progress condition of the defragmenting processing if the defragmenting processing under performance is interrupted.

8. (previously presented): A navigation operation system performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data; and

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time,

wherein the defragmenting processing device interrupts the defragmenting processing if a given condition is fulfilled during executing the defragmenting processing,

wherein the defragmenting processing device preserves defragmenting progress data indicative of a progress condition of the defragmenting processing if the defragmenting processing under performance is interrupted, and

wherein the navigation system further comprises an engine sensor for detecting an operated state of an engine of a vehicle, wherein the defragmenting processing device not only monitors an output of the engine sensor during executing the defragmenting processing but also interrupts the defragmenting processing in response to a stop of the engine.

9. (original): The navigation system according to claim 8, wherein the defragmenting processing device restarts the defragmenting processing based on the defragment progress data when the engine under halt is started after the defragmenting processing was interrupted.

10. (previously presented): A navigation operation system performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data; and

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time,

wherein the defragmenting processing device interrupts the defragmenting processing if a given condition is fulfilled during executing the defragmenting processing,

wherein the defragmenting processing device preserves defragmenting progress data indicative of a progress condition of the defragmenting processing if the defragmenting processing under performance is interrupted, and

wherein the defragmenting processing device interrupts the defragmenting processing when the navigation is activated during execution of the defragmenting processing.

11. (previously presented): A navigation operation system performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data;

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time;

an operation device with which executing the defragmenting processing in the storage device is able to be ordered, wherein the defragmenting processing device performs the

defragmenting processing in response to the instruction of execution from the operation device; and

a readout device for reading out the map data from a recording medium in which the map data are recorded,

wherein the navigation control device executes a navigating operation based on the map data read out by the readout device when the navigation is under operation based on the map data stored in the storage device at a time when the execution of the defragmenting processing is ordered by the operation device, and

the defragmenting processing device executes the defragmenting processing in the recording medium.

12. (previously presented): A navigation operation system performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data;

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time;

an operation device with which executing the defragmenting processing in the storage device is able to be ordered, wherein the defragmenting processing device performs the defragmenting processing in response to the instruction of execution from the operation device;

a readout device for reading out the map data from a recording medium in which the map data are recorded; and

an ordering device for ordering execution of a navigating operation,

wherein the navigation control device executes the navigating operation based on the map data read out by the readout device when activation of the navigating operation is ordered by the ordering device during the defragmenting processing in the storage device by the defragmenting processing device.

13. (previously presented): A navigation operation system performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data;

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time,

an operation device with which executing the defragmenting processing in the storage device is able to be ordered, wherein the defragmenting processing device performs the defragmenting processing in response to the instruction of execution from the operation device;

a readout device for reading out the map data from a recording medium in which the map data are recorded; and

an ordering device for ordering execution of a navigating operation,

wherein the defragmenting processing device interrupts a defragmenting operation when the recording medium is unloaded in the readout device as well as activation of the navigating operation is ordered by the ordering device during the defragmenting processing in the storage device by the defragmenting processing device.

14. (previously presented): The navigation system according to claim 13, wherein the navigation control device issues a message, after the interruption of the defragmenting processing, for urging a user to load the recording medium in which necessary map data are recorded, and the defragmenting processing device restarts the defragmenting processing based on the defragmenting progress data at a time when the recording medium is loaded.

15. (original): The navigation system according to claim 9 or 14, further comprising a selective inputting device for enabling a user to selectively input information about either one of the restart and discontinuation of the defragmenting processing, prior to the restart of the interrupted defragmenting processing.

16. (original): The navigation system according to claim 1, wherein the defragmenting processing device is constructed so as to execute the defragmenting processing in cases a vehicle on which the navigation system is mounted is stopped.

17. (previously presented): A navigation apparatus performing a navigation operation based on a current position and map data, the navigation apparatus comprising:

a recording medium which stores the map data,

a head for reading and writing information from and into the recording medium;

a providing device for providing a position to which the head is made to retract from a portion on the recording medium; and

a controller which controls the navigation operation based on the map data,

wherein the controller performs a defragment operation for the recording medium at a first predetermined condition and stops the defragment operation at a second predetermined condition, and

wherein the defragment operation continuously arranges specific data in the vicinity of the retracted position.

18. (previously presented): A new navigation apparatus according to claim 17, wherein audio data is to be stored in the recording medium.

19. (previously presented): A navigation apparatus according to claim 17, wherein the first predetermined condition is a condition of no navigation operation.

20. (previously presented): A navigation apparatus according to claim 17, wherein the first predetermined condition is a condition that a user instructs the defragment operation.

21. (previously presented): A navigation apparatus according to claim 17, wherein the second predetermined condition is a condition that the defragment operation is completed.

22. (previously presented): A navigation apparatus according to claim 17, wherein the second predetermined condition is a condition of an engine stop of a vehicle in which the navigation apparatus is installed.

23. (previously presented): A navigation method performing a navigation operation based on a current position and map data, the navigation method comprising:

performing the navigation operation based on the map data stored in a recording medium,

providing a position to which a head, which reads and writes information from and into the recording medium, is made to retract from a portion on the recording medium,

performing a defragment operation at a first predetermined condition, and

stopping the defragment operation at a second predetermined condition,

wherein the defragment operation continuously arranges specific data in the vicinity of the retracted position.

24. (previously presented): A navigation method according to claim 23, wherein audio data is to be stored in the recording medium.

25. (previously presented): A navigation method according to claim 23, wherein the first predetermined condition is a condition of no navigation operation.

26. (previously presented): A navigation method according to claim 23, wherein the first predetermined condition is a condition that a user instructs the defragment operation.

27. (previously presented): A navigation method according to claim 23, wherein the second predetermined condition is a condition that the defragment operation is completed.

28. (previously presented): A navigation method according to claim 23, wherein the second predetermined condition is a condition of an engine-stop of a vehicle in which the navigation apparatus is installed.

Claims 29-31 (canceled).

32. (currently amended): ~~The~~ A navigation system ~~according to claim 31~~operation performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data; and

a defragmenting processing device for performing a defragmenting processing with the storage device at predetermined time,

wherein the storage device is a hard disk mounted in a ~~the~~ hard disk apparatus which comprises:

a head for reading and writing information from and into the hard disk; and

a providing device for providing a position to which the head is made to retract from a portion on the hard disk, and

the defragmenting processing device preserves defragmenting progress data indicative of a progress condition of the defragmenting processing if the defragmenting processing under performance is interrupted, and

~~wherein the defragmenting processing device~~ continuously arranges specific data in the vicinity of the retracted position when defragmenting processing is performed.

33. (currently amended): ~~The~~ A navigation system ~~according to claim 29,~~ operation performing navigation based on a detected current position and map data, the navigation system comprising:

a storage device, which is nonvolatile, from and into which files of map data are to be read and written;

a navigation control device for controlling the navigation operation using the map data;

a defragmenting processing device for performing a defragmenting processing with the storage device at predetermined time; and

~~further comprising~~ an operation device with which executing the defragmenting processing in the storage device is able to be ordered, wherein the defragmenting processing device performs the defragmenting processing in response to the instruction of execution from the operation device; and

wherein the defragmenting processing device preserves defragmenting process data indicative of a progress condition of the defragmenting processing if the defragmenting processing under performance is interrupted.

Claims 34 and 35 (canceled).

36. (previously presented): A navigation apparatus performing a navigation operation based on a current position and map data, the navigation apparatus comprising:

a recording medium which stores the map data, and

a controller which controls the navigation operation based on the map data,

wherein the controller performs a defragment operation for the recording medium at a first predetermined condition and stops the defragment operation at a second predetermined condition, and

wherein defragmenting progress data indicative of a progress condition of the defragment operation is preserved if the defragmenting operation under performance is interrupted.

37. (previously presented): A navigation apparatus according to claim 36, wherein audio data is to be stored in the recording medium.

38. (previously presented): A navigation apparatus according to claim 36, wherein the first predetermined condition is a condition of no navigation operation.

39. (previously presented): A navigation apparatus according to claim 36, wherein the first predetermined condition is a condition that a user instructs the defragment operation.

40. (previously presented): A navigation apparatus according to claim 36, wherein the second predetermined condition is a condition that the defragment operation is completed.

41. (previously presented): A navigation apparatus according to claim 36, wherein the second predetermined condition is a condition of an engine stop of a vehicle in which the navigation apparatus is installed.

42. (previously presented): A navigation method performing a navigation operation based on a current position and map data, the navigation method comprising:

performing the navigation operation based on the map data stored in a recording medium,

performing a defragment operation at a first predetermined condition,

stopping the defragment operation at a second predetermined condition, and

preserving defragmenting progress data indicative of a progress condition of the defragmenting operation if the defragment operation under performance is interrupted.

43. (previously presented): A navigation method according to claim 42, wherein audio data is to be stored in the recording medium.

44. (previously presented): A navigation method according to claim 42, wherein the first predetermined condition is a condition of no navigation operation.

45. (previously presented): A navigation method according to claim 42, wherein the first predetermined condition is a condition that a user instructs the defragment operation.

46. (previously presented): A navigation method according to claim 42, wherein the second predetermined condition is a condition that the defragment operation is completed.

47. (previously presented): A navigation method according to claim 42, wherein the second predetermined condition is a condition of an engine-stop of a vehicle in which the navigation apparatus is installed.